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Research about Human Chipping



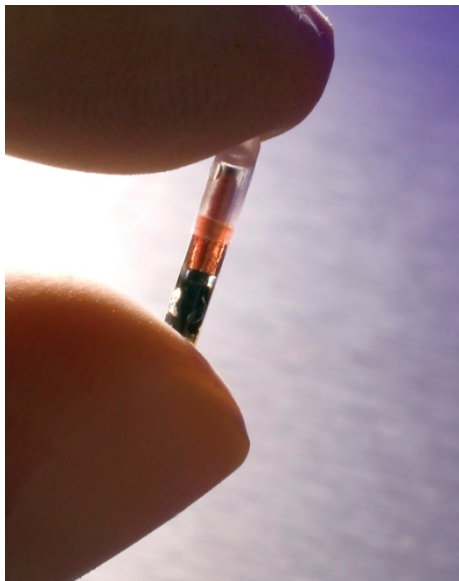
Academic Literature Review

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Human chipping entails the implantation of a Radio Frequency Identification (RFID) tag into the body. This chip, and thereby its owner, can then be identified with an appropriate device. Most of the implants are passive chips, which means that they can be identified by a reader, but they cannot send out signals themselves. They are also only readable from very short distances, generally 10cm or less. The *VeriChip* was such an implant, the size of a grain, which transmitted an unique 16-digit code to the reader (Aubert, 2011).



Several uses of these implants can be identified. Researchers and artists have taken implants to find out how it affects their interaction with others and their surroundings (Graafstra, Michael and Michael, 2010). In the healthcare industry, RFID tags can be linked to one's medical record. Being able to identify a person and his medical record if he or she enters the emergency room and is unable to communicate could be of vital importance (Masters & Michael, 2007; A. D. Smith, 2007). Chips could have biomedical functions where they measures physiological changes, such as glucose levels in the body, and communicate this information to the patient and/or doctor (Masters & Michael, 2007). Additionally people with Alzheimer may be chipped in order for them not to be locked up in their rooms, but still be able to walk around in a safe way (Landau, Werner, Auslander, Shoval, & Heinik, 2009; L. Rosenberg, Kottorp, & Nygård, 2012). Furthermore, a human chip could offer a secure way of identification. Some people already use implants for identifying oneself to their phone, computer, or front door (Masters & Michael, 2007). In 2005, a chip was implanted in volunteers in the Baja Beach club in Rotterdam and Barcelona and Bar Soba in Glasgow, who then gained VIP

access and could make transactions with these chips (Martin, 2005; K. Michael & Michael, 2010).



Other potential (uses mentioned in the literature depend on connecting the chip to GPS tracking, which would make it possible, for instance, to chip offenders to make sure they are not violating their parole, implanting children so parents can monitor them and make sure they are at school. In Mexico, the chipping of people has been discussed in the context of kidnapped; victims supposedly could be more easily found (Anderson & Labay, 2006; Gadzheva, 2007). However GPS tracking of RFID implants is currently not possible (Aubert, 2011).

While there are thus already some people using RFID implants, most other people would be reluctant to get one in their own body. This literature review will therefore focus on the acceptance and rejection of human chipping for identification purposes. In the next section we will shortly explain how we found and selected relevant literature. We will then discuss what the literature says about people who have an RFID implant, and more generally about reasons for acceptance or concerns.

Method

In order to identify the relevant literature, a search was performed with relevant keywords including but not limited to “Implant AND RFID AND acceptance”, “Implant AND attitudes” and “Verichip”. The search was conducted on Web of Knowledge, Sociological Abstracts, Communication and Mass Media Complete (via ebscohost) and the library database of Erasmus University (sEURch). Literature from medical and technical disciplines (e.g. neurosciences, medical engineering, law) was not selected. All potentially relevant literature was read. Additionally readings were discovered snowballing from the found articles. We discovered that relatively few articles focused

on the actual acceptance and users of human chipping. There has been more attention for ethical and political concerns (eg. Bramstedt, 2005; Foster & Jaeger, 2008; K. Michael, McNamee, & Michael, 2006) and for the potential benefits of human implants (e.g. Gadzheva, 2007; Masters & Michael, 2007).

People who have an implant

Two Australian researchers, Katina Michael and MG Michael have conducted case studies about people who have voluntarily implanted an RFID chip, most importantly the American Do-It-Yourself Chipper Amal Graafstra.



Graafstra is considered a pioneer in this field and implanted a chip in 2005 and talked extensively about his chipping and his views with Michael and Michael in 2010 (Graafstra, Michael and Michael, 2010). For Graafstra the desire for chip came from a need to have a secure and easy authentication device for his office. He assessed the alternatives (biometrics, smart jewellery) and found that the chip would be the most convenient for him. He analyzed the medical safety, especially with respect to sterilization, fixation in the body, removability and cancer risk, and decided the hand would be the best place for the implant. On the basis of his research, he developed a list of safety concerns, and a ten point DIY-tagger code.

In Michael and Michael (2013), the case of Gary Retherford, an external consultant responsible for the deployment of the implantable chips in the US company citywatcher.com, was interviewed. In this company microchip implants were used to authorize access to restricted areas.



Retherford also voluntarily implanted himself. From the interview, it becomes clear that he seeks a balance between security or privacy, and is willing to give up some privacy for the enhanced security an implant offers. He takes a highly rational approach to implants, assessing the pros and cons without being distracted by moral or psychological considerations. The key to his acceptance of human chipping, however, is that it should always be optional and never compulsory.

Michael and Michael (2010) conducted a similar study about implantees of the Baja Beach club in Barcelona, a club that offered implants to its customers in exchange for VIP status and easy financial transactions. They conducted an interview with the club manager and analyzed media coverage, and concluded that the relative advantage of the chip came from the convenience and social prestige of having a chip. Due to the VIP status and the awareness of this in the club, everyone in the club knew these persons. Yet, it was also clear that the implants were considered incompatible with mainstream social and cultural values. This incompatibility worked well as a marketing strategy as it generated immense international media coverage about the club.

Michael and Michael's work provides detailed information about the motives and ideas of key individual chippers. It also offers a rich overview of the many medical, social and cultural issues that are involved in chipping. It gives, however, little insight into the wider beliefs and attitudes of people regarding human chipping, and how these views are spread across different groups in the population. For these kinds of data we turn to another body of research, mostly survey-based.

Factors influencing acceptance or rejection of human chipping

Alan D. Smith (2007) examined whether the acceptability of human implants depends on the purpose they are used for. Using a convenience sample, 64 respondents were asked whether they were willing to get a microchip implant for password activation, to replace credit/banking cards, to keep medical records on, to replace social security number and/or driver's license, for identification to authorities, to track one's children, and for security and/or transaction needs. Particularly medical usage generated a higher willingness to get implanted (38%), whereas implants which would be used by authorities generated the lowest level of acceptance (19%). Almost all of the respondents mentioned that if the implant included a tracking function, they would be unwilling to be implanted. Gender differences occurred with men claiming more often to know about human chipping than women. On the other hand women expressed more willingness to use implants for password activation and for medical record keeping.

Perakslis and Wolk (2006) also show, based on a survey among 141 college students, that implantable chips are more likely to be accepted as a lifesaving device (44%) or to ensure safety and security for the person and his/her family (43%) than for national security (32%) or to combat terrorism (31%). Both of these surveys show that there is strong reluctance against implants and that their possible acceptance depends on the purpose of the implants. This reluctance can be further explored by reviewing the literature that focuses specifically on people's worries about implants. Trocchia and Ainscough (2006) asked respondents to write up their concerns about keychain tags, voice recognition, fingerprint scanning, facial scanning, retina (eye) scanning, and implants. From the answers they constructed a typology of general concerns that is also relevant for chipping.



Concerns about the technology itself

People expressed a variety of concerns about the technology itself, for instance how convenient, usable and safe it would be. This plays out in health concerns, for instance about hygiene or the chip possibly harming the body (Trocchia & Ainscough, 2006). Other risks that have been identified are irritation under the skin, the safety of getting the implant in non-medical setting (Gadzheva, 2007) to carcinogenic effects (Foster & Jaeger, 2008) and incompatibility with a “potentially life-saving diagnostic procedure” (Gadzheva, 2007: 223). Another set of concerns regarded personal security issues as people said to be afraid of physical assault to take out the chip (Trocchia & Ainscough, 2006). Arms of kidnapped victims could be amputated if they were carrying a traceable chip (Gadzheva, 2007; Lockton & Rosenberg, 2005) and if the chip gives access to a high security place, the chip may be reinserted in someone else in order to gain access (Lockton & Rosenberg, 2005). Finally, it is often felt that implanting technology chip would be expensive for either the person itself or businesses (Trocchia & Ainscough, 2006). VeriChip’s initial costs were \$200 and implantees paid approximately \$100 a year to be registered in the database (Foster & Jaeger, 2008).

Concerns about data security and privacy

Perakslis and Wolk (2006) state that for half of their respondents privacy concerns produce the primary hesitation when considering biometrics and/or implanting a chip (p. 41). Such concerns extend to other forms of identity management as well, but for chips in particular it was felt that the screening or scanning of the chip could happen without consent or even awareness of the carrier, and it could also happen for other functions than initially intended (Glasser, Goodman, & Einspruch, 2007). “[A] private monitoring device could become a public surveillance system” (Gadzheva, 2007: 221), and carriers of chips would have no idea “” who is tracking [them]” (Perakslis & Wolk, 2006: 41).

Concerns regarding existential issues

The last theme identified by Trocchia and Ainscough are existential issues involved in the usage of chips, especially with respect to humanity and morality (Trocchia & Ainscough, 2006). The first reflects “a psychological discomfort arising from perceived diminution of an individual’s human qualities and/or; forced interaction with a mechanical device” (ibid: 616). Gadzheva (2007) argues that “RFID implants in the

human body will make us lose our individuality and dignity and be treated like inventory or branded like cattle” (p. 221). Additionally, some fear that relationships may erode as interpersonal trust is replaced by these systems of surveillance (Glasser, Goodman, & Einspruch, 2007; K. Michael, McNamee, & Michael, 2006).



Moral concerns include the “subjective feelings of right and wrong that are rooted in an individual’s conscience” (Trocchia & Ainscough, 2006: 616). Some of the potential abuses associated with implants, such as chipping immigrants, are considered to violate human rights (Foster & Jaeger, 2008). Morality comes up especially in religious responses to implants. While in the media, mainly the negative religious responses to implants have been reported (K. Michael & Michael, 2010), Campbell et al (2007a; 2007b) give a more diverse overview of how different religions can accept, negotiate or resist implants as they invade the body. Implants can be seen as religiously acceptable if they are “justified by methods of moral reasoning and prioritization of values within the tradition” (Campbell et al., 2007b: 268) or are appropriated within boundaries of the community. Ambivalence may occur in which a tradition cautiously incorporates these bodily mechanisms. but the implant should never undermine the individual’s spiritual progress. Resistance may occur because of the belief that technologies should be used to heal and restore, but not to actually enhance a human being.



These normative responses of appropriation, ambivalence, or resistance do not depend on particular religions, or sections within religions, according to Campbell and his colleagues.

Conclusion and discussion

Outside of the medical field, few scholars have looked at the usage, acceptance or rejection of RFID Implants for human beings. The rare research in which people are asked about their willingness to adopt an implant, shows that there is widespread reluctance but that medical and safety purposes are most often considered acceptable reasons for human chipping. There is an identifiable group of 'early adopters' who have taken chips for the purpose of experimentation, fun and social critique, and they are visible in research and in the media. Their experiences have produced a rich overview of the variety of concerns that implants evoke among the general population. Some of these concerns relate to a wider body of identity management technologies and have to do with privacy and data protection. Others are specific to the idea of chipping people which raises existential questions and anxieties about what it means to be human, and how one leads a good life.

Such existential concerns tie in directly with the fact that the human chip is an intrusive technology that is inserted in the body. Historically the body was mostly considered as separate from and in some belief systems as morally inferior to the mind. In contemporary society, it has been claimed that people no longer have a body, but are a body. It signifies who one is and represent one's character (Featherstone, 1982). Alterations to the body have thus simultaneously become common and controversial as the many intense discussions about cosmetic surgery or tattoos demonstrate. While some early adopters indeed compare the physical intrusion by the chip to having a tattoo or piercing, (Hemment, 2006), the strong and widespread classification of the human chip as 'the mark of the beast' signals an additional set of concerns. While the biblical interpretation is that the 'mark of the beast' is a sign of having *voluntarily* chosen to follow the anti-Christ¹, contemporary pop culture is full of portrayals of human chipping as a means to take control over the individual and destroy his or her autonomy.

¹ <http://christianity.about.com/od/endtimestopicalstudy/a/Mark-Of-The-Beast.htm>

(for instance *The Manchurian Candidate* (1959/1962/2004)). Loss of control to an external agency is thus a fear that is particular to the human chip, especially because it cannot be easily removed by the carriers themselves. One can discard identity tokens, like passports, id-cards or smart jewellery, one possibly can avoid biometric screening, but one cannot get rid of an implant easily.

Nevertheless, such a conclusion is hypothetical rather than empirical and asks for more research about human chipping, especially about the question how a wider set of early adopters and the general public feels about these issues.

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